

*P5/20SE, P5/30SE
P9/16SE, R8/17SE*

GB ***Assembly and Operating Instructions
Tubular drives for screens
with locking device***

Important information for:

- *Fitters*
- *Electricians*
- *Users*

Please forward accordingly!

These instructions must be kept for future reference.



BECKER

Assembly and Operating Instructions

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Introduction

The screen drives P5/20SE to P9/16SE and R8/17SE are high-quality products which offer a wide range of performance features:

- **Optimised for screen applications with automatic locking**
- **No settings on drive**
- **No external limit stop switches**
- **Automatic compensation of changes in screen curtain (temperature, ageing, humidity)**
- **Optimum tensile load adjustment according to the mechanical requirements of the sun protection system**
- **Minimal curtain and seam strain**
- **Automatic detection of the upper end limit**
- **Automatic detection of the lower end limit when automatic locking function is active**
- **Right or left-hand installation**
- **Parallel connection of several drives possible**
- **Suitable for all Becker control systems**
- **Compatible with previous types of motor (4-wire connecting cable)**

Always observe the information provided in these instructions when installing and setting the device.

Warranty

Structural modifications and incorrect installation which are not in accordance with these and our other instructions can result in serious injuries, e.g. crushing of limbs. Therefore, structural modifications should only be carried out with our prior approval and in accordance with our instructions, particularly the information contained in these Assembly and Operating Instructions. Any further processing of the products which does not comply with their intended use is not permitted.

The end product manufacturer and fitter have to ensure that all the current statutory, official regulations and, in particular, EMC regulations are adhered to during utilisation of our products, especially with regard to end product assembly, installation and customer advice.

Safety Information

The following safety instructions and warnings are intended to avert hazards and to prevent damage to property and personal injuries. **Please retain for future reference.**



Caution

Denotes a potentially hazardous situation. If this is not avoided, injuries may result.



Attention

Denotes a potentially hazardous situation. If this is not avoided, the product or something in its vicinity may be damaged.



Note

Denotes user tips and other useful information.



Important safety instructions for the user

Caution! Failure to observe these instructions can lead to serious injuries.

- All operational work including maintenance and cleaning, on electrical installations as well as other parts of the construction must always be performed by authorised specialists, especially by qualified electricians.
- Do not allow children to play with control units.
- Systems have to be regularly checked by authorised specialists for wear and damages.
- Always put damaged systems out of operation immediately until they are repaired by an authorised specialist.
- Do not operate equipment if people or objects are within the danger zone.
- Observe the danger zone of the equipment during operation.
- Bring the equipment to a stop and disconnect the mains power supply when maintenance and cleaning jobs are performed either on the system itself or in the immediate vicinity of it.
- Ensure that there is an adequate distance (at least 40 cm) between moving parts and adjacent objects.
- Crushing and shearing points must be avoided or protected.



Important safety instructions for the installation and commissioning

Caution! Failure to observe these instructions can lead to serious injuries.

- Please comply with the safety instructions EN 60 335-2-97. Please note that these safety instructions cannot be assumed as being complete, since this standard does not consider all the possible causes of risk. For example, the construction of the operated product, the effectiveness of the drive in the location of installation or the mounting of the final product in the end user's place of usage cannot be taken into consideration by the drive manufacturer.
If any questions or concerns regarding the safety instructions contained in the standard arise, please contact the manufacturer of the respective part or end product.
- All operational work, including maintenance and cleaning, on electrical installations as well as other system parts must always be performed by authorised specialists, especially qualified electricians.
- During operation of electrical or electronic equipment and units, certain components are subject to a hazardous electrical voltage. Physical injuries or damage to property can result in the event of unqualified interventions or failure to comply with the warning notices.
- All applicable standards and regulations for the electrical installation must be complied with.
- Only use spare parts, tools and additional devices which are authorised by Becker.
- Unapproved third party products or modifications to the system and its accessories represent a risk to your safety and the safety of others. This means that the utilisation of unapproved third party products, or modifications which have not been agreed with or approved by us are prohibited. We shall not accept liability for damages arising from such actions.
- Before installation, shut down all lines and control devices that are not essential for operation.
- Position control devices within sight of the driven product at a height of over 1.5 m.
- Ensure that there is an adequate distance (at least 40 cm) between moving parts and adjacent objects.
- Nominal torque and duty cycle must be suitable for the requirements of the driven product.
- Technical data - nominal torque and service life are located on the type plate of the tubular drive.
- Moving parts of drives intended to be installed at a height of less than 2,5 m above floor level or other access level need to be protected
- Crushing or shearing points must be avoided or protected.
- Observe safety distances in accordance with DIN EN 294.
- When installing the drive, an all-pole separation capability from the mains with at least 3 mm contact opening width per pole must be provided (EN 60335).
- If the mains connection cable is damaged, it may only be replaced by the manufacturer.
- Drives with a H05VV-F connection cable are only to be used inside the building.



Assembly and Operating Instructions

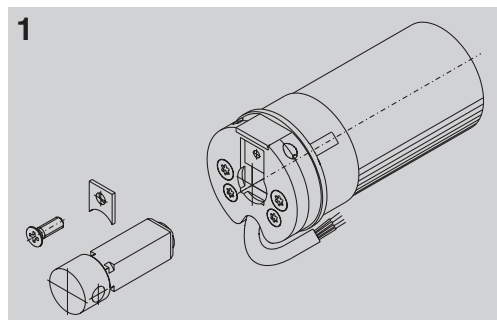
Designated use

The tubular drives P5/20SE to P9/16SE and R8/17SE are to be used solely to operate screens with automatic locking. In order to function correctly, these tubular drives require a fixed end stop in the upper end limit position (when screen is retracted). Interlinked operation is only possible if all sub systems run exactly synchronously and reach the upper end limit at the same time.

Other applications, utilisation and modifications are not permitted in order to protect the safety of the users and others, since these actions can impair the system's safety, resulting in personal injuries and property damage. Becker-Antriebe shall not accept liability for damages arising from such actions. Always observe the information in these instructions when operating or repairing the system. Becker-Antriebe shall not accept liability for damages resulting from incorrect usage.

Mounting and installation instructions

1



Installing the tubular drive



Caution!

All electrical connections must be made by a qualified electrician. The current supply must be disconnected before installation. These installation instructions must be given to the electrician installing the equipment.

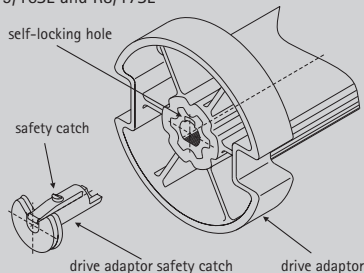
When installing the drive, the following steps must be carried out:

1) Fitting the drive adapter

The drive adaptor is secured by a bearer plate. To remove the drive adaptor, unscrew screw and remove the bearer plate (Fig. 1).

2

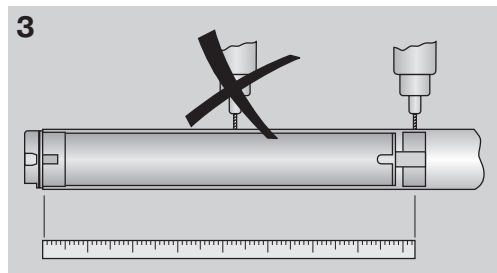
P5/20SE to P9/16SE and R8/17SE



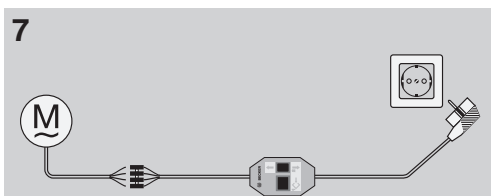
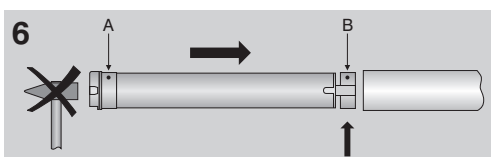
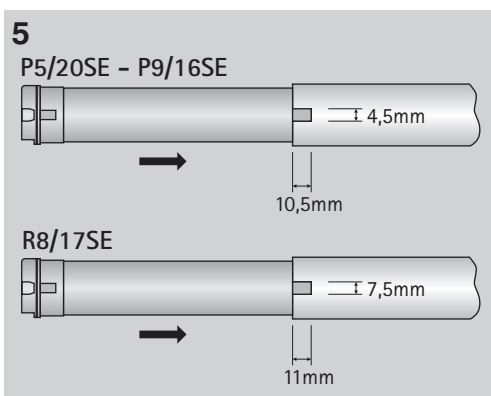
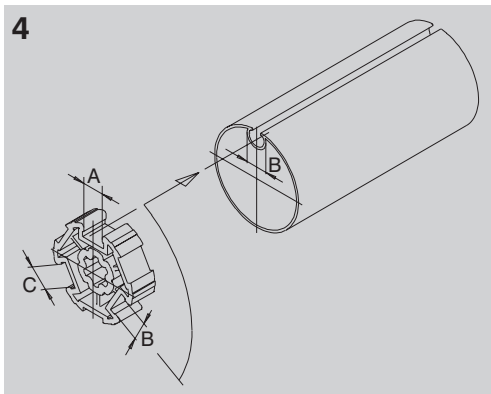
2) Fitting the drive adapter with safety catch P5/20SE to P9/16SE and R8/17SE:

The insert direction of the drive adaptor safety catch is prescribed by its shape. When installing the drive adaptor, always ensure that the safety catch engages. A „clicking“ sound can be heard when the drive adaptor safety catch engages properly. Pull on the drive adaptor to check that it is located securely (Fig. 2).

3



3) Before inserting the drive into the tube, measure the dimensions from the end of the tube to the centre of the drive adaptor and mark the dimensions on the tube (Fig. 3).



4) Round tubes with groove:

With some drive adaptors, groove widths tolerances in different barrels can be compensated for by turning the drive adaptor into another groove recess. These groove recesses have different dimensions and allow you to install the drive so that it fits exactly (Fig. 4).

5) Round tubes:

Release the tube at the motor end to allow the cam of the limit ring adaptor to be slid into the tube. There must be no clearance between the cam of the limit ring adaptor and the tube (Fig. 5).

6) Mount the drive using a suitable limit ring adaptor (A) and drive adaptor (B). Slide the drive with pre-mounted limit ring adaptor and drive adaptor into the tube into it connects positively. Ensure that the limit ring adaptor and drive adaptor are fitted into the tube securely (Fig. 6).

The drive adaptor of the tubular drive must be connected to the tube as follows:

Size of drive [mm]	Tubes-Ø [mm]	Torque max. [Nm]	Fastening screws for drivers (4 x)
Ø 35	40 mm plastic drive adaptor	13	flat-headed sheet-metal screw ST 4.8 x 10 DIN 7982
Ø 45	60 - 70 mm plastic or diecast drive adaptor	50	flat-headed sheet-metal screw ST 6.3 x 10 DIN 7982

Becker recommends that the thrust bearing also be connected to the tube.



Attention

When drilling the tube ensure that you never drill in the area around the tubular drive! When inserting the drive into the tube, do not drive it in or drop it into the tube! (Fig. 3 and 6)

Secure the drive using suitable fasteners for the given screen bearing.

The screen must be moved to the upper end limit towards a fixed end stop.

Always observe the relevant regulations for electrical installation! Electrical connections must be made by a qualified electrician. In order to programme the end limit positions, connect matching coloured Becker setting control (4935 200 011 0), the Becker programming handset (Item No. 4901 001 158 0) or a standard knob-operated rotary switch (all of which do not allow the drive to be reset) and switch on the power supply (Fig. 7).



Attention

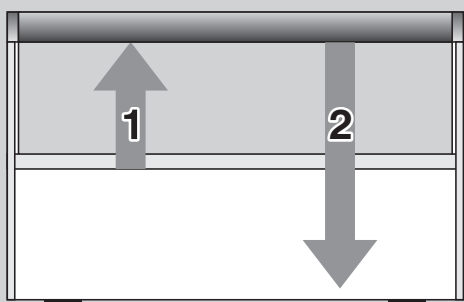
The programming handset and the setting control are not intended for permanent operation but should be used for initial operation only!

When installing the sun protection system, always ensure that there is no risk of the motor connection cable being damaged when the system is in operation.



Setting the end limit positions

8



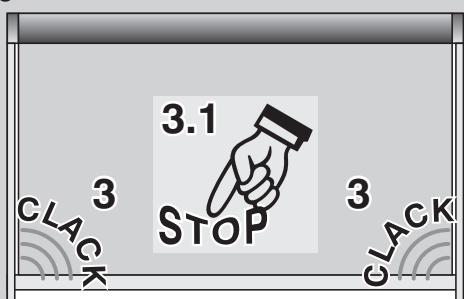
Installation steps 1+2:

First the screen must be moved to the upper end limit until the tubular drive switches itself off automatically (1).

If, when the screen is being retracted, the tubular drive switches itself off before the upper end limit has been reached due to an obstacle, the screen is to be moved away from the obstacle and the obstacle removed to allow the upper end limit to be set.

Adjust the screen to the lower locking position and switch off the tubular drive (2).

9



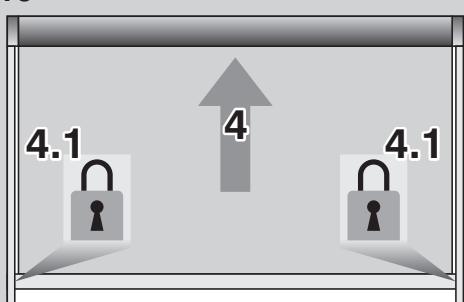
Installation steps 3+3.1:

When the screen has reached the locking position a „clack“ sound can be heard coming from both guide rails (3).

The screen is to be stopped directly after the „clack“ sound has been heard (3.1). About 1.5 cm of the screen should be in the lock device.

If the screen has bypassed the locking position, adjust the tubular drive slightly so that the screen is just above the locking device and reposition by moving the screen downwards again.

10



Installation steps 4+4.1:

Now operate the tubular drive to move the screen upwards (4) until it is blocked by the locking device (4.1). The tubular drive will stop, completing the installation process.

By moving the screen up and down, the tubular drive will now automatically lock and unlock in the lower end limit position.



Note

Becker drives are intended for short-time duty (S2/KB 4 min).

The number of extending and retracting cycles possible for the awning depends on the diameter of the roller tube and the awning's extended length.

The motor's running time is reduced if the drive has not yet fully cooled down from previous operation.

To remove the drive or delete the internal memory, the Becker setting control for drives with electronic limit stop is also required. This can be used to reset the factory settings of the tubular drive, for example in order to:

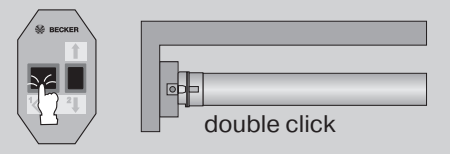
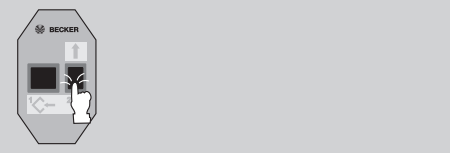
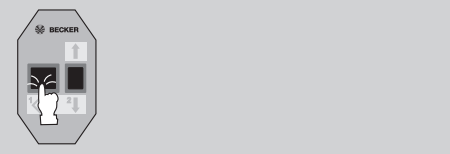
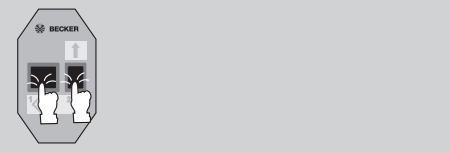
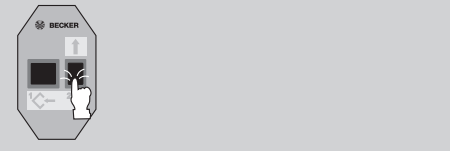
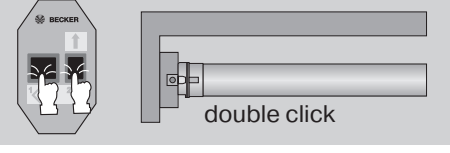
- re-install the equipment
- remove the drive
- set a new end limit
- operate a faulty drive in the emergency programme.

Deleting the end limits using the setting controls



Note

Please note that a protection lock is engaged after setting the positions to avoid unintended erasure of the positions.

	Action	Reaction
a) Erase final positions during installation		
	Press the reset button (1) for one second.	This is acknowledged by a double click of the tubular drive. The end limit is deleted.
b) Erase final positions after installation		
	Move the canopy between the end limits (2).	
	1. Press the reset button (1) for one second.	
	2. Also press the control button (2) down and keep it depressed.	
	3. Now release the reset button (1) and still keep the control button (2) depressed.	
	4. After one second, press the reset button (1) again as well.	This is acknowledged by a double click of the tubular drive. Both end limits are deleted.



Assembly and Operating Instructions

What should you do, if...?

Problem	Cause	Remedy
Screen curtain torn off.	Old curtain.	Replace with new curtain and re-programme end limit positions.
Tubular drive bypasses the end limit position or fails to reach the pre-set end limit position.	End limit positions deleted (drive makes „clack clack“ sound when switched on). 1. Short circuit in electrical connection due to dampness. 2. External loads connected to the connecting wires of the tubular drive. 3. L1 and N terminals mixed up due to long cable.	1. Repair electrical connection. Re-programme system. 2. Check electrical connection. Remove external loads. Re-programme system. 3. Exchange L1 and N (N=bal, L1=blk/br). Re-programme system.
Tubular drive stops at random and does not respond to control commands for any direction.	1. Tubular drive overloaded. 2. Sun protection system jammed; too much friction. 3. The tubular drive has been previously installed.	1. Use stronger tubular drive. 2. Make sun protection system smooth running. 3. Delete end limit positions and re-install.
The tubular drive does not move in the correct direction.	1. Tubular drive overheated. 2. Faulty tubular drive (no response even after considerable period of idle time). 3. Tubular drive switched off automatically due to an obstacle when moving in the same direction during last operation. 4. Faulty electrical connection.	1. Tubular drive will be ready for operation again after a few minutes. 2. Replace tubular drive; Reset using the programming button. In this case, no clack will be heard. Tubular drive can be moved again in both directions using the setting control to allow the drive to be removed. 3. Move screen away from obstacle, remove obstacle and move in the desired direction. 4. Check electrical connection.
The tubular drive only responds after 5 seconds.	Tubular drive in error mode (obstacle detection, faulty).	Reset end limit positions or replace tubular drive.

Information for the Electrician

Becker tubular drives with electronic limit switching can be parallel connected. The maximum switching contact loading of the control device (timer, relay control, switch, etc.) must be observed.

Use external conductor L1 to control the up and down direction. Other devices or consumption units (lamps, relays, etc.) must not be directly connected to the drive connection cables. For this purpose, the drives and additional units must be decoupled by relay controls.

When installing the drive, an all-pole separation capability from the mains with at least 3mm contact opening width per pole must be provided (EN 60335).

Attention: Only use mechanically or electrically locked switching elements with a marked zero position! This also applies when drives with electronic and mechanical limit switching are used in the same system.

The changeover time for changing the running direction must be at least 0,5 s. Switch and control must not execute simultaneous UP and DOWN commands.

To operate drives with electronic limit switching, only use control elements (time controls) which do not draw N potential via the drive. The outputs of the control element must be potential-free in the neutral position.

Protect the electrical connections from damp.



Note

Becker tubular drives bear the CE mark. These drives comply with the valid EU guidelines and meet EMC regulations.

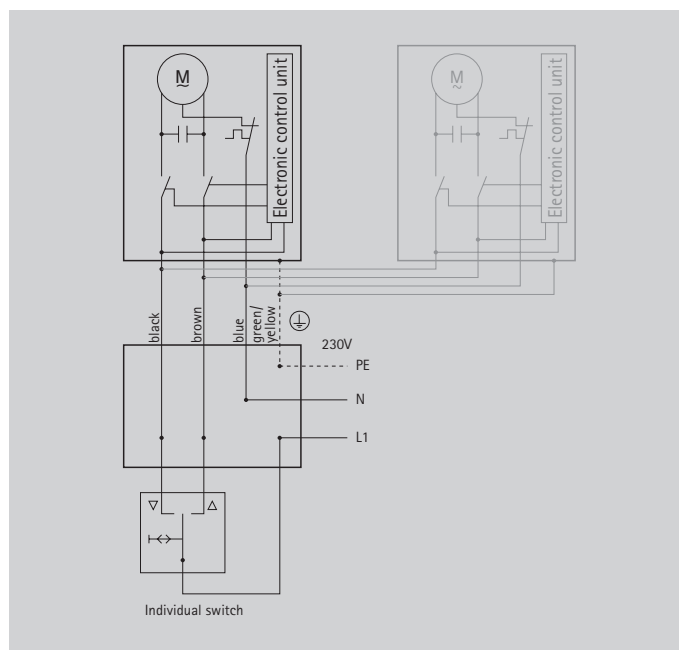
If the drive is to be operated with units which contain sources of interference, the electrician must ensure suitable interference suppression for the relevant devices.

Technical Data

Type	P5/20SE	P5/30SE	P9/16SE	R8/17SE
Nominal torque (Nm)	5	5	9	8
Output speed (min-1)	20	30	16	17
Limit switch range	38 revolutions			64 revolutions
Mains voltage	230V/50Hz			
Power consumption (W)	115	115	110	115
Nominal current consumption (A)	0,47	0,47	0,47	0,5
Operating mode	S2 4 min.			
Protection class	IP 44			
Min. inside tube diameter (mm)	37			47
Max. outside tube diameter (mm)	40-53			50-63

Sample connection

Controlling one/several drive(s) via a single switch/button



Subject to technical changes without notice



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